COLUMBIA-PRESBYTERIAN MEDICAL CENTER

The Presbyterian Hospital 1994 Annual Report

Kevin was lucky; he got a donor heart. Many others don't and die waiting. Are cross-species transplants the answer? One of the tough issues that define health care today.

Recent changes in the financing of health care have forced academic health centers to redefine themselves. Many have chosen to become more like large community hospitals, de-emphasizing subspecialty medical education, biomedical research, and the development of innovative, high-tech care.

Despite great financial pressures, The Presbyterian Hospital has resisted the temptation to abandon its longstanding commitment to the classic triad of patient care, research, and education. The Hospital has embraced instead the more difficult challenge to make the whole academic health enterprise much more efficient.

In a way, the decision was easy. If there is to be progress in health care, there must be academic health care. Who else has the knowledge and expertise and the diversity of patients required to teach clinicians and scientists, to develop and test new therapies, to manage the most difficult cases?

Who else is willing to tackle the tough issues, to take chances, to risk controversy, to confront ethical dilemmas, to break with tradition?

That is the essence of academic health care.

That is also the essence of The Presbyterian Hospital, judging by the stories in this report. In the past year or so, the Hospital has joined the nationwide clinical trial of RU-486, the abortion pill ... proposed a baboon-to-baby heart transplant ... warned the public about the overuse and abuse of high technology ... given admitting privileges to nurses ... corrected past injustices by reaching out to the poor, to gays and lesbians, and to women ... tapped the global health market ... led a nationwide campaign to give defibrillators to ordinary citizens to lessen the toll from sudden cardiac death ... opened an innovative Clinical Trials Office, reinventing the way medical centers, government, and industry go about the business of clinical research...

These are the stories of modern medicine, the issues and dilemmas that our nation cannot avoid, and that only academic health centers can address.

BRIDGING THE GAP

Faced with a severe shortage of human donor hearts, Columbia-Presbyterian surgeons have proposed a controversial solution: using baboon hearts as a "bridge to transplantation," a way to keep desperately ill children and small adults alive until a human heart becomes available. Ultimately, cross-species transplants, possibly using pigs, could become a "destination" therapy, alleviating the shortage of donor organs.

Organ transplantation is one of the success stories of modern medicine. But transplant surgery has become "too successful," creating a demand for organs that has far outstripped supply.

"Approximately 17,000 people a year under the age of 55 could benefit from a heart transplant, yet no more than 2,200 viable donor hearts become available," says Robert Michler, MD, Director of the Cardiac Transplant Service. "Roughly 30 percent of the transplant patients across the country die waiting for a donor heart." The scenario is even worse for kids. There are only so many accidental deaths — the predominant source of donor hearts — and only so many willing donors. Remarkably, heart-transplant candidates face a greater risk of death waiting for a donor organ than from the operation itself.

Physicians at Columbia-Presbyterian Medical Center have proposed a bold solution to closing the gap between supply and demand: cross-species transplants, using the hearts of baboons. The hearts would serve as a "bridge to transplantation," a temporary measure intended to keep dying patients alive until a compatible human heart becomes available, reports Dr. Michler, who is heading the research team.

Dr. Michler's goal is to save lives. But he also hopes to learn more about cross-species transplants (xenotransplants), enough perhaps so they can become a replacement for human hearts, a "destination" therapy rather than a "bridge." Ultimately, this research may make it possible to use the hearts of other, more plentiful animals, such as pigs. "Approximately 100 million pigs are slaughtered for food every year, and, except for some valves that we harvest, all those hearts go to waste," he says.

There is an alternative: mechanical cardiac assist devices, which can keep heart patients alive for months until a suitable donor heart is found. Unfortunately, current models (including one successfully tested here by Eric Rose, MD, Chief of Surgery) are too large for children and for many women. It may be years before a model is devised that is appropriately sized for them.

There is another alternative for children called extracorporeal membrane oxygenation (ECMO), a modified heart-lung bypass machine that can be used to sustain small children with failing hearts. But ECMO, which is primarily used to temporarily support the lungs of premature infants, can be tolerated for a week or two at most.

In any case, these are temporary bridges, not permanent solutions to the donor shortage. The only other option, the permanent mechanical heart, is at best years and years away.

The dilemma of animal research

Even those who support animal research, who understand its intrinsic value to medical progress, are uncomfortable with the idea of using nonhuman primates in medical experiments. These are, after all, our closest cousins on the evolutionary tree, highly intelligent, complex, social beings — not your ordinary lab rats.

Most people would prefer to leave these creatures be. But what of the countless people suffering or dying from diseases for which there is no treatment or cure? Is it right to leave *them* be, to forgo remedies that could be discovered through primate experiments?

That's the central dilemma of animal research — there is no ethically pure middle ground. At best, animal research is a compromise, an attempt to do the most good, with the least harm. Such trade-offs have given us vaccines for polio and diphtheria, chemotherapy for non-Hodgkin's lymphoma, organ transplants, insulin for diabetes, balloon angioplasty, heart-lung bypass machines, and much, much more. Knowledge has its price.

Such thoughts are on the minds of many at Columbia-Presbyterian Medical Center, where xeno-

CONTROVERSY

Ethical dilemmas

THE PRICE OF PROGRESS

Heart transplant recipient Kevin Bayley and his mother, Joan.

transplant research has been debated for a generation. It has been more than three decades since Keith Reemstma, MD, former Chairman of Surgery, and a few others started to delve into the basic science of transplants and cross-species immunology. Their early attempts at animal-to-human transplants were mixed, but these pioneers persisted. Eventually, their work made human-to-human transplants a reality, and ultimately a resounding success.

Since Baby Fae

Eleven years have passed since the first and only baboon-to-baby heart transplant, which was performed at Loma Linda University. Baby Fae, the recipient, died after 20 days, rejecting the heart for a number of reasons, including a blood-type mismatch.

Robert Michler, MD

But that was eons ago in the time-scale of medicine. "Since Baby Fae, we have learned a great deal about immunosuppression and about organ transplants in general," says Dr. Michler, who started his own research in the field a decade ago. "For example, we've learned many of the steps, the chemical reactions, that occur when the body rejects a transplanted heart, which allows us to use drugs to delay the rejection process." Columbia-Presbyterian researchers were the first to demonstrate that these same therapies can be applied to cross-species transplants as well.

"In this experiment," Dr. Michler adds, "we would be using a baboon heart only as a bridge to transplantation, not as a destination therapy, so long-term rejection is not an immediate concern here. In all likelihood, we will be able to find an acceptable human donor heart in two or three weeks, before rejection becomes a problem."

There are other unknowns as well. Will the baboon heart in any way compromise acceptance of a human heart? "Most research, including a study just completed here, strongly indicates that this will not be a problem," says Dr. Michler. "However, there is no way we can predict for certain what will happen." Actually, the baboon heart will probably strengthen the patient's overall condition, particularly the function of the liver and kidneys, greatly improving the odds of surviving the subsequent transplant.

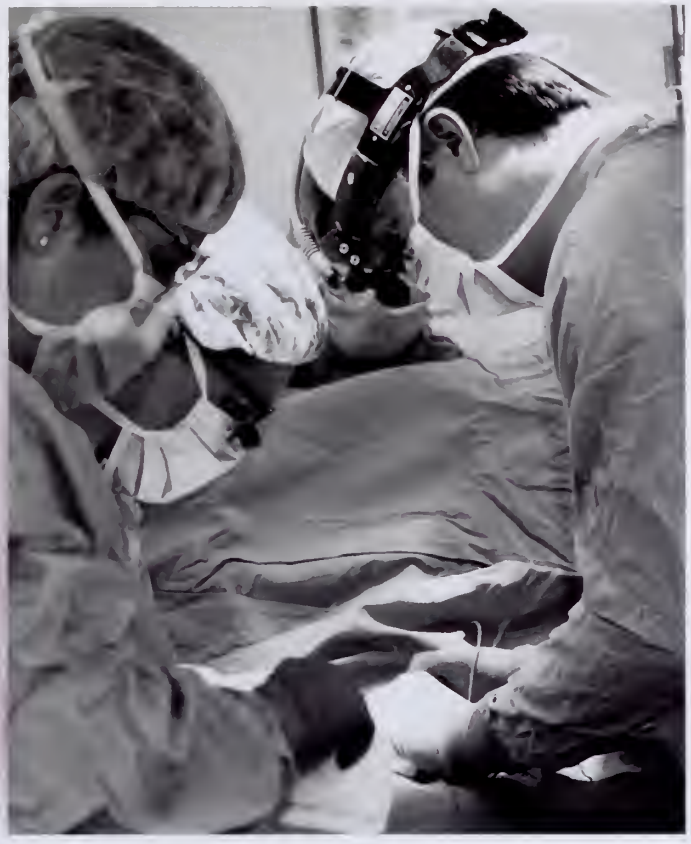
Another unknown is the likelihood of transmitting a dangerous virus from baboon to patient. "We have developed a number of safeguards to limit the transmission of potentially infectious agents, such as quarantining the animals and testing them for viruses," says Dr. Michler. "We will also monitor the patient closely for unusual infections after the transplant." This is a topic under intense scrutiny here at the Medical Center and in the scientific community in general.

Saving lives, advancing knowledge

"[Primates] are, like us, complex beings," writes Deborah Blum in *The Monkey Wars* (Oxford, 1994), an enlightening and balanced treatise on the use of primates in research. "Once we recognize that, we must also recognize that the choices we make in using them are complex, too. It might once have been easy to toss a monkey into a research project, taking no particular thought. Today, the reverse is true. We should hesitate, and we should think."

The vast majority of researchers *do* think about the use of animals in research. The treatment of laboratory animals has vastly improved in recent decades, and researchers rarely take animals from the wild, thanks in part to the animal advocacy movement. (The baboons for Dr. Michler's project would come from a breeding colony in the United States. "They are raised in impeccable conditions, in huge outdoor enclosures that simulate their natural habitats," says Ralph Dell, MD, Professor of Pediatrics and Chairman of the Institutional Animal Care Utilization Committee, or IACUC. "It's in the breeder's interest to treat them well — they won't breed if they are mistreated.")

Ironically, some of the animal rights advocates do not want to think about animal research. For them, no argument, no rationalization, can justify the use of



Columbia-Presbyterian's heart surgery team, led by Dr. Michler (right).

animals, any animal, in medical experiments.

Most people, in contrast, are willing to listen to the pros and cons, and polls show substantial public support for animal research. As Blum writes, "People do not, however, support it without qualification, without question."

And neither do researchers at Columbia-Presbyterian. Much thought is given to the use of research animals. Just as patients are protected against improper research by the IRB (Institutional Review Board), the animals are protected by the IACUC. The xenotransplantation project cannot go ahead without the approval of both.

According to Dr. Dell, "There are two major criteria for justifying the use of animals: to save a life and to advance knowledge."

The proposed baboon transplant is designed to meet both criteria. According to Dr. Michler, "Only critically ill patients would be considered for a xenotransplant, those who would die if a human donor heart cannot be found within 24 to 48 hours. We also will learn more about the immunology of transplantation, perhaps enough to eventually use pig hearts instead as a destination therapy."

Still, this is no guarantee that the experiment will be approved by the IRB or the IACUC, which have been deliberating for more than a year. "We are in the midst of a careful review of this very complex issue by these two committees, which include scientists, ethicists, and lay people," reports Donald Kornfeld, MD, Professor of Clinical Psychiatry and Chairman of the IRB. "These bodies have consulted with outside experts in ethics, infectious diseases, immunology, and transplant surgery. We also await the proceedings of a three-day conference on xenotransplantation to be held at the Institute of Medicine in Washington in June, which will address these issues."

Close call

Young Kevin Bayley, who's pictured on the cover of this report, was one of the lucky ones. With only hours to spare, and only ECMO keeping him alive, a compatible donor was found. In the days to come, however, there will be another child like Kevin, close to death, but far from a donor heart, and he or she may receive a gift of life from an animal, a cousin, if you will.

Shall a baboon die so a child can live? That's one of the dilemmas of modern medicine.

RU-486: THE PRIVATE ABORTION

Strongly committed to women's health, Columbia-Presbyterian is participating in clinical trials of RU-486, the abortion pill, and, in doing so, risking the wrath of abortion opponents.

Abortion. Few words have the power to divide people as markedly, as passionately, sometimes as violently, as this one. Although the landmark *Roe v. Wade* decision is already two decades old, the fervor driving its supporters and its opponents has if anything grown in intensity. Anti-abortion extremists have even committed murder as a means of preventing abortions. Against such a backdrop, why would Columbia-Presbyterian Medical Center choose to participate in such a risky, controversial undertaking as abortion pill trials?

As a major provider of health care, Columbia-Presbyterian feels strongly obligated to offer women all reproductive health services and to conduct research that makes these services safer and more effective.

Carolyn Westhoff, MD

"Presbyterian Hospital and Columbia University have both been completely supportive of these trials," says Carolyn Westhoff, MD, the trials' principal investigator at the Medical Center.

While 150,000 women in 20 countries have already used the abortion pill mifepristone — commonly known as RU-486, after Roussel Uclaf, the French company that developed it — these U.S. trials will supply the data required for eventual FDA approval. Coordinated by the Population Council, the trials will be conducted through summer 1995 at more than a dozen clinics and hospitals nationwide, testing approximately 2,000 women volunteers, including 150 to 200 at Columbia-Presbyterian.

"One side effect of a clinical trial is that we develop more of a relationship with the patient," explains Dr. Westhoff. "What has impressed me most during these trials is the thoughtfulness of the women. Clearly, they have reflected upon their situations carefully, and they ask a lot of questions before making their decisions. Abortion is not a spontaneous, thoughtless gesture on their part, as some would suggest. These are very serious people who are trying to do what's best for them and their families."

After receiving both confirmation of pregnancy and counseling to select the appropriate procedure, each patient who elects to participate in the trials visits the Medical Center three times. On the first visit she receives the three mifepristone pills, which block the hormone that maintains the pregnancy. Two days later she returns for two pills of misoprostol, a prostaglandin that induces uterine contractions. During the four-hour observation period that follows, most women abort. After two weeks, the participants return for a follow-up visit at which point a surgical abortion is scheduled for the few who failed to respond to the medication.

Medical abortion will not, however, completely replace surgical abortion; moreover, it has certain drawbacks. For example, a woman cannot be guaranteed when the abortion will occur. Also uncertain are the side effects of pain and bleeding, which vary in severity and duration from patient to patient. But for most, these limitations are outweighed by the "two big advantages," says Dr. Westhoff, "safety and privacy."

"Medical abortion is so private that it would become impossible for abortion opponents to identify who is having one, where it's happening, and to inflict the kind of harassment that they now do at clinic sites," she continues. "They would lose a lot of bite if abortion becomes very private through a switch from surgical to medical procedure."

Women also appreciate the control that mifepristone offers them, Dr. Westhoff adds. "It's more intimate for the woman. It's possible for her to have a social intimate with her during the experience, and that's very different from being in an operating room which is intrinsically more alienating. So far, women say that they would recommend this method to a friend who might need an abortion, and that, if they ever needed another abortion, they would do this again."

But will they have the option to do it again? The Medical Center hopes its contribution to the trials will help assure women this valuable medical option.

WHAT YOU CAN'T SEE *CAN* HURT YOU

The benefits of stereotactic radiosurgery — knifeless brain surgery — are being misrepresented and oversold to the public, and doctors at Columbia-Presbyterian are sounding the warning.

Might the quality of M.B.'s life have been diminished by an advertisement she heard on the radio? Yes, according to doctors at Columbia-Presbyterian Medical Center, who warn that she is one of many. True, stereotactic radiosurgery, the treatment that M.B. received, is an effective and reasonably safe technique for certain conditions, many of which are otherwise untreatable. But it is neither a cure-all nor risk-free, as some less ethical or simply less experienced physicians are suggesting.

Stereotactic radiosurgery uses sophisticated computers and imaging equipment to focus four or five beams of radiation at a target in the head. Only at the convergence of these beams is enough energy generated to destroy tissue, such as a small tumor or arteriovenous malformation (AVM), an abnormal tangle of blood vessels. Avoiding the cutting of skull and brain tissue makes this option appealing to patients; the low costs also appeal to insurance companies. But there is growing concern that it is being used inappropriately, particularly at smaller institutions, which rarely have the resources or expertise to run a proper stereotactic surgery program and may be under pressure to recoup their investment in the technology.

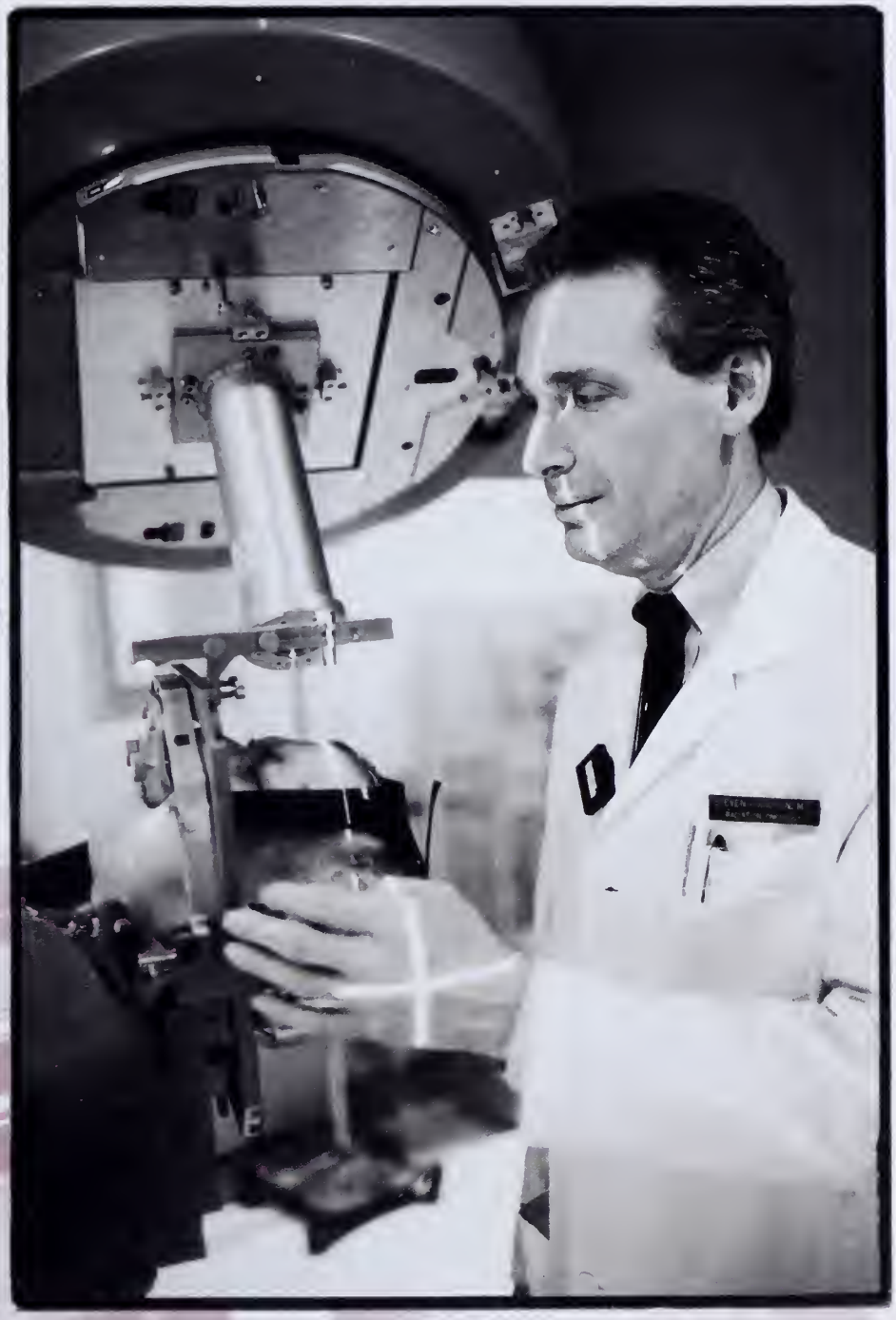
Doctors at Columbia-Presbyterian have recently seen a number of patients who have received improper treatment elsewhere, including M.B., whose story shows how egregious some of these errors can be. In her mid-forties, M.B. was ostensibly in perfect health. Following an accident in which she bruised her head, she was brought to a community hospital emergency room. The examination revealed a benign, slow-growing, egg-sized tumor on the surface of her brain. Traditional surgery should have been recommended, according to Michael Sisti, MD, a neurosurgeon at Columbia-Presbyterian.

Unfortunately, M.B. heard a radio advertisement and went to see a radiation oncologist — without seeing a neurosurgeon or a neurologist. "And assuring her that the procedure was both safe and effective, the doctor recommended a course of radiosurgery for a lesion that (a) was too large to be effectively treated by radiosurgery, (b) was a benign lesion, and (c) was completely curable by surgery at very low risk," explains Dr. Sisti.

M.B. received the treatment and four months later had a seizure, her first ever. Evidently, the brain was swelling at the site of the tumor, probably from the radiotherapy. She subsequently had more seizures and other side effects, necessitating additional hospital admissions. Finally, she was referred to Dr. Sisti. When her brain swelling failed to go down, and her overall condition grew worse, he recommended surgery. "I brought her to the operating room, found a completely benign tumor, and removed it in its entirety. And she's made an excellent recovery. However, the effects of the radiotherapy are still in her brain and will be with her forever."

Other patients, like J.S., receive treatment that may be appropriate, but the information and follow-up care they receive is incorrect or non-existent. J.S., 35, was found to have an AVM in the left temporal lobe—an AVM that could also have been treated by surgery—and he was irradiated. Three years later, he had a seizure, and a scan revealed the lesion was still present. Fortunately, J.S.'s condition was remedied by surgery at Columbia-Presbyterian, and today he is doing fine. But the case points out the importance of properly informing the patient. J.S. was unaware that the treatment could fail, that he needed follow-up, and that there were options if the treatment didn't work.

Unfortunately, many facilities offering radiosurgery lack the capacity to offer the full range of treatment options. "When you're a hammer, the whole world looks like a nail," says Dr. Sisti, referring to those programs that are trying to do too much with this technology. Patients need to find programs like Columbia-Presbyterian's, in which neurologists, neurosurgeons, and radiation oncologists work as a team to find the best treatment, be it stereotactic surgery, standard surgery, or otherwise.



Steven Isaacson, MD, a member of Columbia-Presbyterian's radiosurgery team.

BREAKING

WITH

CITIZEN TRADITION

DEFIBRILLATION

SUDDEN DEATH.

SUDDEN

Columbia-Presbyterian is leading a nationwide campaign that may ultimately put defibrillators into the hands of ordinary people, an unprecedented move that could prevent 100,000 sudden cardiac deaths a year.

On an episode of "MacGyver," the TV show about a super-sleuth who could do just about anything with a pocket knife and a few odds and ends, the lead character came upon a man in cardiac arrest and zapped his heart back to life with jumper cables and a car battery. While MacGyver's homespun solution probably would not have worked, he had the right idea: When cardiac arrest strikes, the heart must be restarted as quickly as possible.

Unfortunately, this rarely happens. Emergency medical personnel seldom get to victims fast enough, and, more often than not, they're inadequately equipped. Only one in three ambulances carries a defibrillator, the only thing that can save a person whose heart has arrested (see box). Consequently, the nationwide survival rate after cardiac arrest is a mere 5 percent, making it the country's leading cause of death. The situation is worse in major urban areas like New York City, where only 1.4 percent were revived in 1991, reports Myron Weisfeldt, MD, Chairman of Medicine at Columbia-Presbyterian Medical Center.

A few areas have responded by bolstering their emergency response systems, but, except for middle-sized cities, the results are disappointing. In rural areas, rescuers remain hampered by great driving distances, and in large cities, by traffic jams and tall buildings. Seattle, for example, equipped all of its rescue personnel with defibrillators and trained half of its citizenry in CPR. It now saves one in five cardiac arrest victims — a good result, but far from ideal. "In small towns and big cities, the current approach does not and will likely not succeed," Dr. Weisfeldt emphasizes.

Consequently, the American Heart Association, with Dr. Weisfeldt leading the campaign, has adopted a wholly different approach: make defibrillators as commonplace and as easy to use as fire extinguishers, so that whenever or wherever a cardiac arrest occurs, an ordinary bystander can immediately begin treatment, rather than wait for the paramedics to arrive.

This won't happen overnight, however. The AHA favors a gradual introduction of public defibrillators, wary that the devices are still too complex for use by untrained lay people — not a bad idea, since so many citizens still cannot program a VCR, a relatively simple technology.

"The first line of attack would be to equip and train every police officer and fire rescue unit with one of these devices, then every company that has a nurse's station or employee health service," says Dr. Weisfeldt, a noted authority on cardiac resuscitation, who played a role in the first clinical use of the implantable defibrillator, a treatment reserved for those at highest risk of cardiac arrest. "The next would probably be security guards."

Ultimately, defibrillators would be placed in retirement communities, schools, apartment buildings, and homes. Widespread distribution of the devices is key, since it is difficult to predict who will actually suffer a cardiac arrest (other than the few who have already survived one — and they are

Cardiac arrest usually strikes without warning. Suddenly, the heart's electrical system goes haywire, reducing the cardiac muscle to a quivering blob of Jell-O, unable to pump blood. The only remedy for a "fibrillating" heart is ***defibrillation***, in which an electrical shock resets the organ's conduction patterns, allowing a coordinated rhythm to resume. "Almost nothing else needs to be done," says Dr. Myron Weisfeldt.

But it must be done quickly. Every minute the heart stays in fibrillation lessens the effectiveness of defibrillation by 10 percent. After ten minutes, very few victims can be revived.

Dr. Weisfeldt still encourages bystanders to apply CPR. CPR keeps oxygen-rich blood flowing to the brain, buying precious seconds until help arrives. But CPR alone is not enough; it must be followed by defibrillation.

often given implantable defibrillators and thus have no need for the external variety). Basically, anyone in middle age is susceptible to cardiac arrest. The risk increases with the presence of atherosclerosis, high blood pressure, inflammatory or degenerative heart disease, certain congenital heart abnormalities, or mineral imbalances, and from smoking or abusing drugs. Tens of millions of Americans have some combination of these risk factors.

But widespread defibrillator distribution will not happen until manufacturers introduce resuscitation devices that are more consumer-friendly.

Furthermore, current models cost thousands of dollars, a significant deterrent to mass-marketing efforts. Fortunately, like portable computers, defibrillators are getting less expensive, lighter, more reliable, and "smarter." There already are models that automatically interpret heart rhythms and advise whether a shock is needed.

"What we're looking for is a brilliant defibrillator," says Dr. Weisfeldt. Perhaps only a few years away, the ideal resuscitation device will weigh 5 to 10 pounds, cost $1,500 or less, fit inside a briefcase, and guide the user with multilingual voice prompts. It will also be durable, maintenance-free, and tamper-resistant.

Dr. Weisfeldt envisions defibrillators with automatic links to emergency services, what he calls the "red phone" concept. "The minute the defibrillator is removed from the phone, 911 would automatically be dialed," he explains. "The 911 system would know exactly which phone and which building was using the defibrillator." In seconds, an ambulance would be on its way to the scene.

If all this sounds like something out of *Star Wars*, Dr. Weisfeldt points to Rochester, Minn. (pop. 110,000), which has equipped all of its police cars and fire rescue units with defibrillators. Over a two-year period, the two departments responded to 44 people in cardiac arrest, successfully defibrillating 21 of them — only five lives fewer than were saved in all of New York City in 1991.

Whether Rochester's remarkable success can be duplicated in small towns and large cities remains to be seen. There are some critical questions to be answered. For example, will private industry, whose cooperation is vital, join the national effort? More air travelers die of cardiac arrest than die in plane crashes, reports Dr. Weisfeldt, but not one U.S. airline has been persuaded to equip its fleet with defibrillators. Another question: Even if the brilliant defibrillator is invented, will the ordinary citizen use it and use it correctly? If CPR is any indication, many bystanders, even if they know how to use the device, will walk away from the scene of an emergency, too scared to get involved. Family members may be more inclined to help, but they frequently panic in stressful and emotional situations. Even trained medical personnel have been known to make mistakes when using the devices.

Myron Weisfeldt, MD, with a defibrillator.

On the other hand, defibrillators have been used successfully by lay people, in just the manner envisioned by Dr. Weisfeldt and the AHA. Just ask David Furey, a Qantas Airlines flight attendant who defibrillated a passenger aboard a November 1994 flight from Los Angeles to Sydney. Says Furey, "I can't tune my video recorder at home, but I can use the Heartstart machine," referring to the brand of defibrillator that Qantas carries. "I think that says it all."

BYPASSING WOMEN

While heart disease threatens equally the lives of men and women, the care offered the two genders is anything but equal — an inequity that a new center is addressing at Columbia-Presbyterian.

Coronary heart disease is the major killer of men in the United States. But what is the major killer of women? Surprisingly for many, it is also coronary heart disease, which each year claims 500,000 women's lives, a number equivalent to that of men. Surprising as well is the equal toll that heart attack and stroke exact from both men and women — unexpected results considering the widely held belief that these are all men's diseases. Such misperceptions reflect a broad-based problem in health care: a pervasive, albeit unintentional, gender bias that results in women's health issues not receiving adequate attention. This problem costs lives.

Elsa-Grace Giardina, MD

The problem as it relates to heart disease traces its roots back to the fifties and sixties. Studies launched in those decades provided the knowledge on which much of the current diagnosis and treatment of cardiac problems is based. These studies. however, focused almost exclusively on men, primarily for two reasons. First, heart disease generally strikes men earlier than women; and second, the economic survival of the family unit during this era was closely linked to the man's health. Subsequent studies continued to concentrate on men, reflecting the fundamental assumption that what was true for men was probably true for women.

This assumption was dangerously wrong.

Director of the Cardiovascular Clinical Pharmacology Laboratory Elsa-Grace Giardina, MD, offers the following example to illustrate the modern repercussions of this historically-based problem. "The common manifestation of a heart attack is chest pain. But if you start out with a population such as women who believe they are not going to have a heart attack, and then they get a symptom of a heart attack, their first instinct is to deny it: 'I couldn't possibly be having a heart attack; women don't get heart attacks.' So, instead of going to a hospital, they wait for the pain to pass. When they finally determine that they may in fact be having a heart attack, and they go to the emergency room, the window of opportunity may have passed during which they could receive clot busters, a very important treatment used to improve outcome and reduce mortality following a heart attack. This may explain, in part, why women do worse than men after heart attacks. In fact, about 30 percent of women die in the first year, compared to 20 percent of men."

But attitudes are changing. "The whole concept of women's health became energized in the late eighties," says Dr. Giardina, crediting much of the recent interest to a congressional task force that drew attention to the deficiencies. Recognizing the importance of the problem, Columbia-Presbyterian Medical Center has worked diligently to find solutions, positioning itself at the forefront in the battle to remedy these past oversights. This effort has led to the creation of the Center for Women's Health, the first com-

prehensive, multidisciplinary health program for women of all ages in New York City.

According to the Center's Director in Medicine, Dr. Giardina, the program has three missions: to provide optimal clinical care to its patients; to develop and offer educational resources both for the lay population and for the faculty, students and health officers; and to develop research programs related primarily to unique issues of women's health. Already, research conducted at the Center is yielding exciting results, including new information about estrogen.

"Estrogen appears to be a 'magic bullet,'" says Dr. Giardina. "Apparently, it can reduce the risk of heart disease in women by 50 percent. We have found that estrogen reduces heart rate, and in that way, it reduces the work of the heart. We think that this is a rather interesting finding; it has not been described previously." The link between estrogen and heart disease in women may explain the advanced age at which the typical woman experiences her first heart attack (65 years old), as compared to the typical man (55).

"The next study we plan to conduct will explore chest pain in women," she adds. Such a study should answer some important questions regarding the different presentation of heart disease in men and women, differences that have led women, and in years past even doctors, to misdiagnose many heart attacks. For example, women are less likely to experience the classic pressure and grasping-of-the-sternum sensation and more likely to feel left arm discomfort. Women also frequently experience a lot of fatigue and shortness of breath. And they tend to have more non-specific complaints that they attribute to gastrointestinal complaints, such as gastritis or gall bladder disease. As Dr. Giardina puts it, "Women may complain about heartburn, not recognizing that the 'heartburn' is really 'heart pain.'"

The Center is also addressing gender-related issues in the methodolgy of these studies. For example, Dr. Giardina points out, in the upcoming chest pain study, evaluation of pain is "somewhat complicated. Certain methods, such as the exercise stress test, do not appear to be as specific or as sensitive in women as in men. A more specific test, the thallium exercise test, is not necessarily helpful in women, either. In this test, a radionuclide substance is injected, and it gets picked up by an external radionuclide scanner. You can actually see the area of the heart that isn't receiving an adequate blood supply. But the problem for women, in particular those who have large breasts, is that the breast overlies the heart and it frequently creates a false reading."

Fortunately, researchers at the Center for Women's Health have access to state-of-the-art equipment, including a positron emission testing (PET) scanner. For several reasons, this non-invasive device is fast becoming the definitive tool for these studies. Unlike the other tests, a PET scan shows myocardial metabo-

lism, which will allow researchers to distinguish between causes of chest pain. Dr. Giardina explains, "The women may in fact not have gross anatomical abnormalities of the coronary artery, but may rather have small vessel disease: or they may have abnormalities of the endothelium, the wall of the coronary artery." Moreover, the PET scanner is expected to shed additional light in future studies on the link between estrogen and heart disease in women.

Cardiac transplantation is the topic of another exciting Center study, the largest of its kind. Researchers evaluated the effect of gender on cardiac transplantation, analyzing data on procedures conducted at Columbia-Presbyterian from 1985 to 1992. Their results are eye-opening. For example, the majority of men who underwent cardiac transplantation suffered from coronary artery disease, the most common disease in the Western world; women, however, more likely suffered from cardiomyopathies, disorders frequently of viral or postpartum origin. This difference in part explains why the number of women who undergo cardiac transplantation is significantly fewer than the number of men; women tend to have heart problems later in life than do men, frequently making them less suitable transplantation recipients.

But social and cultural issues also seem to play a role. "There is evidence that women, given the choice of having cardiac transplantation, will not take it," explains Dr. Giardina. "They'll say, 'Oh, I'm okay. I don't want to undergo that.' What it is that impacts on that decision, however, is not clear." Moreover, this tendency does not hold true across races: in fact, on a percentage basis, more minority women underwent cardiac transplantation than minority men. These discoveries are especially valuable, since few, if any, other medical centers have both the diversity of population and surgical capacity to provide such depth of data.

Columbia-Presbyterian also has the means by which it can quickly put this and other findings into practice. Already, the curriculum at Columbia University's College of Physicians and Surgeons has been changed to include issues about heart disease in women. Now, first- and second-year medical students benefit from lectures detailing the latest findings on the subject. This program is currently the only one in New York City that addresses the topic in a structured manner, but Dr. Giardina anticipates that other medical schools, both locally and nationally, will soon follow suit.

The work of the Center for Women's Health, however, is far from complete. Already, most tertiary-care physicians have become knowledgeable about these women's health issues, and efforts are under way to educate primary-care physicians, who play a much greater role in identifying cardiac disease in this era of managed care. "But the next challenge," says Dr. Giardina, "is to raise the consciousness among women. Patient education is just so critical."

BREAKING DOWN STONE WALLS

By addressing the mental health needs of gays, lesbians, and bisexuals, a new clinic is helping to mend the longstanding rift between the psychiatric and homosexual communities.

In December of 1993, Justin Richardson, MD, submitted an unconventional proposal: to create a center for gay and lesbian mental health. The response was enthusiastic, and with the support of both the Department of Psychiatry and The Presbyterian Hospital, the Columbia Center For Lesbian, Gay & Bisexual Mental Health opened the following July, becoming one of only three such academically affiliated programs in the country. The speed with which the Center was created is all the more remarkable when one understands the history of the less-than-harmonious relationship between the gay and lesbian "Community" — the collective term adopted by many homosexuals — and psychiatry.

Justin Richardson, MD

Ironically, the prevailing philosophy in psychiatry back in the 1950s — "they aren't bad people; they're just sick" — was initially welcomed by the Community, since it was helpful in "getting the law off the backs of gays and lesbians," according to Dr. Richardson. However, in time, lesbians and gays grew less satisfied with that notion. They realized that, not only were they not bad, they were also not sick—and they arrived at that conclusion long before the psychiatric profession did. In fact, the American Psychiatric Association did not remove homosexuality as a mental disorder from its official diagnostic manual until 1973—much too late to avoid the distrust of psychiatry that developed and that, to a lesser extent, still exists today.

"There has been a major shift in the way organized psychiatry views homosexuality," says Dr. Richardson. "But the Community very clearly remembers the problems with psychiatry. Understandably wary of organized psychiatry, many gay and lesbian individuals still avoid treatment rather than risk discriminatory care. Others may limit themselves to treatment by openly affirmative lay therapists who may not have the training to provide high-quality care."

This awkward history has created a significant barrier to the care and treatment of the gay and lesbian population. Breaking through this barrier is one part of the Center's tripartite mission. Says Dr. Richardson, "When many people come to us, their sexual orientation is not an issue, and they don't want an issue made of it. What will be the issue, for example, is a man's recent breakup with his boyfriend. We won't question why he had a boyfriend in the first place; we'll start where he is."

The Center counts a number of the leading experts in gay and lesbian mental health among its members, fulfilling the Center's second goal: the highest quality care for its patients. The approach of the lesbian, gay and gay-affirmative faculty members is multidisciplinary, drawing on the skills of psychiatrists, social workers and psychologists, and integrating psychodynamic, biomedical and interpersonal models of treatment. The Center also undertakes various projects, such as a school-based outreach program that targets and treats gay and lesbian youths at risk of suicide.

The Center's third goal is to coordinate and promote the work of researchers, clinicians and scholars in the field. Traditionally, professionals interested in studying gay and lesbian mental health have received little support from academic institutions. Isolated from one another, they have had difficulty securing institutional backing for research that might improve the lives of lesbian, gay and bisexual people.

If the initial success of the Center is any indicator, the old barriers may be coming down faster than expected. Already additional clinicians have been brought in and office hours expanded to meet patient demand. Perhaps the rapid success of the program can in part be attributed to a fortuitous opening date, just days after the 25th anniversary of the Stonewall riots, the Boston Tea Party of the gay rights movement. More likely, however, the success reflects the Center's filling a true void in the Community, one that has existed for far too long.

HOMOSEXUAL RIGHTS

Медицинская
антерприза

ENEMI

FRIEND

Новые
рубеж

ОСКВА

Global
market

МОСКИ

Врачи.ру

TO RUSSIA, WITH CARE

Expanding its horizons, The Presbyterian Hospital has opened an outpatient facility in Moscow, the Hospital's first venture into the global health market.

For the past decade, The Presbyterian Hospital has been assembling an impressive array of satellite facilities, bringing its high-quality care directly to communities throughout the metropolitan area. In August of 1994, the Hospital established yet another new satellite, though you might have a little trouble finding it, since it's a bit out of the way — eight time zones, to be exact — in the city of *Moscow*. This satellite may not be particularly convenient for most New Yorkers, but for Americans based in the Russian capital, it is a welcome touch of home.

Columbia-Presbyterian/Moscow is the outpatient facility of U.S. Global Health-Moscow, a joint venture created to provide U.S.-style health care for American travelers and expatriates and for local residents in Moscow. The Presbyterian Hospital's first international satellite, U.S. Global Health-Moscow represents a bold new direction. Reaching out to patients from around the world is not new for the Hospital—but treating them in their own backyard is.

"The overall objective of this unique initiative is to contribute to the improvement of the health of Russia through the introduction of a comprehensive program of primary and secondary health services for the entire family, as well as academic support," explains Bruce Barron, MD, PhD, MPH, President of Columbia-Presbyterian Health Services. The comprehensive list of specialties offered includes general internal medicine, obstetrics and gynecology, pediatrics, cardiology, hematology, endocrinology, pulmonary medicine, gastroenterology, and family practice medicine.

While most visitors are treated as outpatients, U.S. Global Health also has the capacity to provide high-quality emergency care. In addition to Columbia-Presbyterian/Moscow's own emergency room, inpatient care is available at Kuntsevo, the former Kremlin hospital, in which a ward staffed by English-speaking physicians and nurses has been established. And when tertiary care is needed, patients can be transferred to Chelsea and Westminster Hospital in London or The Presbyterian Hospital in New York.

Who could have imagined such an arrangement just a decade ago, when East-West tensions were taken for granted? Yet today, this venture has been made possible by a close collaboration between U.S. Global Health and Medincentre, a Russian organization that provides medical care primarily to the foreign diplomatic and correspondent communities. U.S. Global Health itself represents an innovative joint venture among Columbia-Presbyterian Health Services of New York; the Fund for Large Enterprises in Russia; and Pepsi World Trade Inc., a unit of PepsiCo International Inc.

Bruce Barron, MD, PhD, MPH

The scope of the venture reaches far beyond the walls of Columbia-Presbyterian/Moscow. Columbia-Presbyterian Health Service's educational exchange programs with other designated hospitals and schools in Moscow and continuing medical and lecture programs by U.S. physicians at Medincentre will benefit an even broader community throughout Russia. Moreover, plans for other facilities like this one are already being considered. "It is our hope that this new venture will lead the way for the eventual development of similar health-care programs in other markets around the world," says Dr. Barron.

Already positioned as a global leader in quality health care, The Presbyterian Hospital is now looking to serve people far from its home base in the Washington Heights/Inwood section of Manhattan. But rest assured, the Hospital's commitment to serving its community has not changed. Its concept of "community," however, has changed in a big way.

Columbia-Presbyterian's latest primary-care clinic is run by nurse practitioners who have full admitting privileges, blazing a new path in the delivery of health care.

Ever since the birth of the modern hospital in the mid-1800s, physicians have controlled access to its beds and services. Somebody had to be in charge, so the responsibility fell to the physician, the provider with the most expertise. The arrangement made sense.

Does it still? It's a valid, if unsettling, question for the medical profession, which has long resisted changes in health care's hierarchy. Ironically, physicians themselves precipitated this reassessment by gravitating toward the specialties and subspecialties, creating a shortage of primary-care providers. All the while, nurses have been reinventing themselves, many becoming much like the family doctor of old. Thus, it was inevitable that somebody somewhere would invite advanced-practice nurses — nursing's top clinicians — to serve alongside physicians as health care's "gatekeepers."

Renee D'Aiuta, adult nurse practitioner

That "somebody" was The Presbyterian Hospital, which last November took the bold step of establishing a nurse-run primary-care clinic that is staffed by nurse practitioners with full admitting privileges. Presbyterian's partner in this unique venture is the Columbia School of Nursing, whose faculty staffs the clinic and guides its operation.

The clinic, called the Center for Advanced Practice, is a fitting addition to the Columbia-Presbyterian Ambulatory Care Network Corporation (ACNC), which now has six community-based health centers in Washington Heights–Inwood, one of the city's most medically needy areas.

At first glance, the Center looks no different from any other clinic. There are the usual examination rooms, stocked with ordinary blood-pressure gauges and medications and bandages. But since the staff consists entirely of adult and pediatric nurse practitioners, it is nursing's, not medicine's, philosophy of care that prevails.

"Nurses tend to be more concerned with the patient as a whole, not just the disease entity," says Patrick Coonan, MEd, Assistant Dean for Advanced Practice at the School of Nursing. Nurses, he says, are more inclined to investigate a patient's diet, job, family, and stress level. "They'll look at social issues, environmental and psychological factors."

One of the Center's first patients was H.M., age 61, who wasn't feeling especially well one particular November day, his stomach a knot of pain. Like countless others in New York City with no regular doctor, he went first to the emergency room in search of relief. In the hectic ER, H.M. was seen by a doctor, who took an X-ray, diagnosed anemia, prescribed iron pills, and referred him to the Center for follow-up care.

At the Center, H.M. was seen by Renee D'Aiuta, an adult nurse practitioner, who suspected that his problem was more than anemia. And, indeed, after taking a thorough history and doing an electrocardiogram, she revealed that he was suffering from heart block (a potentially dangerous arrhythmia), and admitted him to the cardiac step-down unit at The Allen Pavilion.

Despite this auspicious start, it remains to be seen how the nursing model compares to the medical model in primary care. Does it lead to better outcomes? Greater patient satisfaction? More cost-efficient care? "Before moving forward in reforming health care in the U.S., we need to answer these questions," says Mary Mundinger, DrPH, Dean of the School of Nursing.

Indeed, that is the aim of a four-year study that will analyze the costs, quality, and outcomes of care at the Center and at two physician-run ACNC clinics. According to Dr. Mundinger, this is the first time anyone has had the opportunity to compare nurses and physicians where both groups of providers are practicing independently and both have the authority to

REACHING OUT TO THE POOR

Patricia Ruiz, pediatric nurse practitioner.

Reaching out to the underserved

admit patients and follow them during their hospital stay.

It is revealing that Ms. D'Aiuta is quick to share credit with Adam Steinlauf, MD, Assistant Clinical Professor of Medicine, whom she consulted on the heart-block case. (Each nurse at the Center has a formal collaboration agreement with a Presbyterian physician. The physician serves not as a supervisor, but as an expert consultant, who is always on call for advice or a second opinion.) Ms. D'Aiuta would be the first to say that nurses and doctors do approach patients differently, but she is uninterested in judging them on their relative worth. The most important issue, she emphasizes, is delivering primary care to people who don't have it.

Encouragingly, Presbyterian physicians have been supportive of the Center. The physicians who are in the specialties or subspecialties find that the Center is advantageous to them. "They will get specialty referrals from the nurses. Most of these doctors don't want a primary-care role, so we don't compete with them directly," explains Mr. Coonan. But the Hospital's primary-care doctors are behind the Center, too, well aware that they need help in meeting the area's needs.

As Darlene Cox, MS, RN, Presbyterian's Chief Nursing Officer notes. "Unfortunately, there's enough illness out there for all of us."

OUTPATIENT CARE IS IN, INPATIENT CARE IS OUT

"We now look towards keeping people out of the hospital as much as we can." - **DARLENE COX**

Darlene Cox

Although the words above sound like something Alice would utter in Wonderland, Darlene Cox, MS, RN, Chief Nursing Officer at Presbyterian Hospital, makes perfect sense. Hospitals can no longer survive by concentrating on traditional acute-care services. Rising costs and falling reimbursements for inpatient care have forced institutions to emphasize outpatient, or ambulatory, care.

More and more doctors are consequently adopting the concepts of health promotion and disease prevention. Curiously, they're starting to sound like nurses. "This is very consistent with the conceptual model that I learned in nursing school," says Ms. Cox, "which teaches you to look at the whole patient, at the significant others, at the patient's environment — that's the foundation of nurse practitioner training."

Thus, institutions like Presbyterian Hospital are increasingly turning to nurses for help in adjusting to this profound shift in health care.

The Center for Advanced Practice is but one example. "This demonstration model, in my mind, will prove that nurses in advanced roles are prepared to identify what it is that they can manage and then appropriately refer what they can't," Ms. Cox says.

Advanced-practice nurses can be found throughout the Hospital and its satellite community facilities. Roughly one-tenth of Presbyterian's 1,300 nurses are nurse practitioners, clinical nurse specialists, certified nurse midwives, or certified registered nurse anesthetists. For several months now, they have been meeting regularly to define practice issues and look for opportunities to improve care in collaboration with their medical colleagues.

In recent months, two departments have asked Ms. Cox for help in improving quality and cost efficiency in the delivery of care. "It all points to an acceptance of nurses as partners at the table," says the Hospital's chief nurse.

Advances in the treatment of heart disease, prostate disease, gastrointestinal disease, breast cancer, and stroke are among the highlights at Columbia-Presbyterian Medical Center in 1994. Of course, these highlights represent only a tiny fraction of the progress that was made. At an institution of this size, with thousands of clinicians and scientists, it is impossible to report every advance. There are, for example, more than 500 trials of new drugs and devices in progress and dozens more in the pipeline.

Office of Clinical Trials

Clinical research activity has been especially high in recent years, thanks largely to the three-year-old Office of Clinical Trials. This innovative office, one of the first in the nation, is transforming the way medical centers go about the business of clinical research.

David Bickers, MD

In recent years, government support for clinical research has become more difficult to obtain, forcing medical centers to come up with new funding strategies. Columbia-Presbyterian's strategy has been to approach clinical research as an economic partnership with government and industry. The Medical Center started by centralizing its separate administrative offices for clinical trials. "We hired a staff specifically trained to expedite the requests for trials, to negotiate contracts, and to design budgets," says Michael Leahey, Director of the Office of Clinical Trials. "Before, it took seven months to get a clinical trial up and running; now, it takes four weeks."

This has made the Medical Center a much more attractive place for pharmaceutical companies and medical device manufacturers to do business. "We now have 175 contracts with more than 100 corporations," says Mr. Leahey.

The Clinical Trials Office is credited with making it possible for researchers here to lead a 35-hospital study of implantable defibrillators, which are used to prevent sudden cardiac death. The trial, the world's largest, is jointly funded by government and industry.

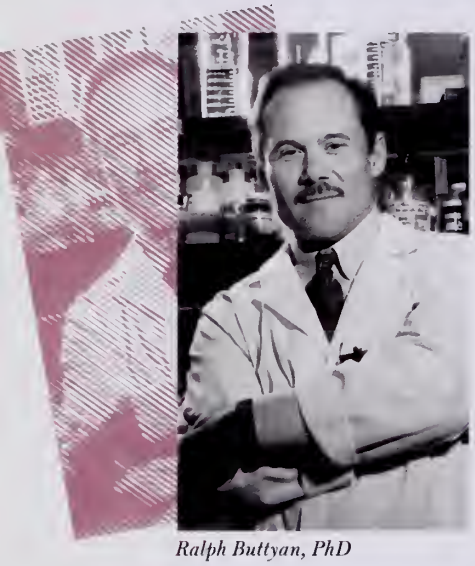
A much-copied innovation is the Office's seed-money grants for fledgling investigators. "Each year, we award ten grants of $50,000 each to young faculty," says David R. Bickers, MD, Chairman of Dermatology, who heads the Office's advisory committee. "Several individuals have gone on to obtain independent NIH funding; therefore, we are fostering the culture of research in the Medical Center. Research leading to the recent discovery of the role of a new type of Herpes virus in Kaposi's sarcoma, a common complication of AIDS, was funded in part by this program." The grants also attract outside funding. "The first investigators who received $1.5 million from us have subsequently received more than $6 million in government grants," he says.

"What this all adds up to is a major commitment by the Medical Center to support cutting-edge clinical research," says Dr. Bickers.

Other institutions are taking note. More than 50 have consulted with Columbia-Presbyterian to learn how it has developed the new paradigm for supporting clinical research.

Michael Leahey

Blood Test May Spare Thousands from Surgery



Ralph Buttyan, PhD

Columbia-Presbyterian researchers announced the development of a blood test for prostate cancer that can easily and accurately determine whether the cancer has spread beyond the gland, according to the test's developers, Carl Olsson, MD, Professor and Chairman of Urology, and Ralph Buttyan, PhD, Director of the Molecular Biology Laboratory. This information is vital, since radical prostatectomy (surgical removal of the prostate) is ineffective once the disease has escaped the gland. If widely used, the test could spare tens of thousands of men with advanced prostate cancer from undergoing inappropriate surgery. Called the reverse transcriptase polymerase chain reaction, or (RT)-PCR, assay, the new test is a significant advance over existing tests, including the prostate-specific antigen (PSA) test, which indicates only that prostate cancer may be present, not its stage of development.

Irradiation May Reduce the Need for Repeat Angioplasty

Approximately one-third to one-half of patients who undergo angioplasty must be retreated because their coronary arteries re-clog, or restenose, within a year. "Whether you use balloon angioplasty, lasers, stents or atherectomy to open arteries, there still is a substantial rate of restenosis," says Judah Weinberger, MD, PhD, Associate Professor of Clinical Medicine (Pharmacology). "Cardiologists have tried a number of pharmaceuticals to limit restenosis, but nothing has worked."

Animal studies conducted here suggest, however, that restenosis can be prevented if the arteries are irradiated at the time angioplasty is performed. High doses of localized radiation, applied via catheters directly to the angioplasty site, seem to be able to do what drugs and devices cannot.

"It's akin to the way radiation oncologists kill cancer," which is characterized by uncontrolled cell proliferation, said Dr. Weinberger. "We view restenosis as a proliferative process, too," the result of an injury to the vessel wall. The injury, he explains, stems from the angioplasty procedure, in which a balloon-tipped catheter is inserted into the vessel and inflated, compressing plaque against the vessel's interior. Although this dilates the artery, it damages it as well. "If you injure a cell, it reacts by proliferating. Smooth muscle cells migrate from the middle layer of the vessel wall into the intima [the inner layer], and they cause a large lesion to form, which then clogs the artery."

New Probe Speeds Recovery After Surgery for Enlarged Prostate

Columbia-Presbyterian was one of three centers in the nation to test a modified surgical procedure for an enlarged prostate (benign prostatic hyperplasia) that allows patients to leave the hospital in less than 24 hours and return to work in three or four days. Previously, patients had to be hospitalized for three to four days and convalesce for up to one month. The new procedure is based on an operation called TURP, or transurethral resection of the prostate, in which a resectoscope is passed into the urethra, through the penis, and into the bladder. Using a tiny electrified loop at the end of the resectoscope, the surgeon removes excess tissue at the core of the prostate gland, which relieves pressure on the urethra. Instead of a loop, the urologists are now using a grooved cylinder, which cuts with higher electrical energy, vaporizing and cauterizing blood vessels instead of cutting them, says Steven A. Kaplan, MD, Director of the Prostate Center. Bleeding, the major complication of the old operation, is vastly reduced in the new procedure, called TVP, or transurethral electrovaporization of the prostate.

Center for Intestinal Dysfunction

Columbia-Presbyterian opened the Center for Intestinal Dysfunction, one of the nation's first facilities dedicated to the study and evaluation of irritable bowel syndrome, a disorder of the intestines that is believed to affect nearly one-third of all Americans. A debilitating, though rarely life-threatening, illness, irritable bowel syndrome is characterized by abdominal bloating, bowel irregularity, and abdominal cramping. There is no cure and no single effective treatment.

Many physicians believe the syndrome is psychosomatic, in effect blaming patients for their troubles. "Our premise is that irritable bowel syndrome may be made worse by the mental state, but the physical disorder comes first," says Joseph Sweeting, MD, a gastroenterologist and Co-Director of the Center.

Michael Gershon, MD

Support for this approach comes from Michael Gershon, MD, Professor and Chairman of Anatomy and Cell Biology, whose pioneering research is changing the way clinicians approach the treatment of digestive disorders. According to Dr. Gershon, many gastrointestinal diseases can be explained by abnormal development of the enteric nervous system, the large and complex set of neurons that control the gut. "It wouldn't take much — too much of a certain chemical and not enough of another — to have a subtle abnormality, say, an intestine that's a bit too irritable," he says.

Although there is much to learn about digestive disease, there is much to offer patients. At the new Center, a multidisciplinary team, consisting of a gastroenterologist, psychiatrist, and nutritionist, tailors a treatment plan for each individual. "Our goal with each patient is to establish the diagnosis and prescribe a course of treatment after two or three sessions with the team," explains the Center's other Co-Director, Susan L. Lucak, MD.

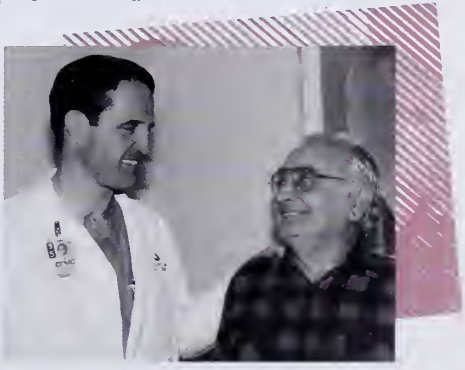
"Irritable bowel syndrome is a frustrating and elusive disorder," says Dr. Sweeting. "Our hope is that with the establishment of this Center, doctors and patients will feel there's a place to go to get answers."

A New Beam of Hope for Heart Patients

A laser beam 20 times more powerful than any other used for medical purposes blasts a one-millimeter hole through the wall of a man's beating heart. A puff of steam rises dramatically, attesting to the vaporizing power of the laser. The surgeon aims the laser again and repeats the procedure — a total of 25 times.

Craig Smith, MD, Director of the Cardiopulmonary Transplant Program, performed this experimental procedure, called transmyocardial laser revascularization, on patient Ralph Amorusi from Stony Point, New York. Mr. Amorusi had been suffering from heart disease, but was not a candidate for bypass surgery. Dr. Smith accordingly recommended this revolutionary treatment.

The surgery was successful, renewing the flow of oxygenated blood to the patient's oxygen-starved heart muscle. Eight days after the procedure, Mr. Amorusi — the first patient to undergo the treatment in New York — reported, "I feel wonderful."



Craig Smith, MD, with heart patient Ralph Amorusi.

Stroke: Early Treatment May be the Key

John Pile-Spellman, MD

A new procedure being studied at Columbia-Presbyterian could revolutionize the treatment of the most common form of stroke. According to study investigator John Pile-Spellman, MD, Director of Interventional Neuro-Radiology, "We used to think that the brain died minutes after a stroke. Now we know it's at least six hours. So there's a certain window of opportunity."

This new two- to five-hour procedure requires special catheters that are inserted into a leg artery and threaded up into the middle cerebral artery, where clots typically lodge. Pro-urokinase, an enzyme similar to one routinely used in heart attack patients, is injected and applied directly to the blood clot, dissolving it and restoring circulation. CT scans are used to confirm that the clot has been dissolved.

Dr. Pile-Spellman noted that, if the procedure lives up to expectations, the greatest challenge will be to get doctors and patients to change the way they react to the first signs of stroke.

Breast Cancer Research Program Established

Columbia-Presbyterian's breast cancer patients will benefit from the new Breast Cancer Research Program, created to coordinate and support research efforts and to enhance collaboration between basic scientists and clinical investigators. The Program will both establish an infrastructure to integrate laboratory and clinical research and facilitate interactions between the laboratory and the clinic with the goal of developing new methods of prevention, diagnosis, and treatment of breast cancer.

Two of the main research goals of the Program are to determine environmental causes of the exceptionally high incidence of breast cancer in women in the New York City area, including on Long Island; and to develop a research base to identify and ameliorate perceived and actual obstacles for minority women in Washington Heights and Harlem, obstacles that may prevent them from obtaining optimal breast cancer care and from participating in clinical breast cancer trials.

Researchers hope that these studies will yield additional information regarding biological differences in risk of breast cancer and in response to treatment, if they exist, between women of European, African, and Latino origin. The Program will involve investigators at Columbia-Presbyterian, as well as at Harlem Hospital Center and Long Island Jewish Medical Center, ensuring a sizable and diverse study population.

Members of the Breast Cancer Research Program's surgical team (from left): Michael Moore, MD, Alison Estabrook, MD, David Kinne, MD, Anne Krementz, MD, and Freya Schnabel, MD.

Liza Minelli starred at the 1994 Annual Presbyterian Hospital Gala, an event that raised a record $2 million for cancer treatment and research. (From left) Drs. William and Phoebe Speck, Minelli, and Pat and Arthur Ryan showed off one of many impressive contributions.

By fielding the largest hospital team in this year's Race for the Cure, Columbia-Presbyterian staff members and patients--including a large contingent from Women At Risk--earned $15,000 that provided mammograms for uninsured Hispanic women.

Award-winning New York Times health columnist Jane Brody provided a witty prescription for healthful living at the second annual Affairs of the Heart luncheon.

United States Health & Human Services Secretary Donna Shalala paid a visit to the Medical Center. Shown here (from left) are Darlene Cox, Dr. Karen Antman, Shalala, Dr. Freya Schnabel, Dr. Alison Estabrook, and Dr. William Speck.

Dr. William Speck and security officer Leon Young cut the ribbon at a ceremony opening the new Columbia-Presbyterian/Eastside facility at 16 East 60th Street.

These lucky Presbyterian Hospital employees took home door prizes won during Employee Appreciation Day festivities.

For Take Our Daughters to Work Day, 250 daughters of Columbia-Presbyterian employees visited the Hospital, learning from talks and tours about future career options in health care.

William T. Speck, MD

As the previous pages show, 1994 was another banner year for clinicians, researchers, and educators at Columbia-Presbyterian Medical Center. But perhaps the most compelling story of the year was The Presbyterian Hospital's financial turnaround.

In 1992, the Hospital incurred a deficit of more than $50 million. The following year, Dr. William T. Speck's first as President and Chief Executive Officer, losses were reduced to $22 million. New and ongoing efforts to reduce costs and increase revenues dramatically lowered the deficit even further, to $2.5 million, in 1994. "This year, we should come close to break-even, which is where we, as a nonprofit institution, want to be," says Dr. Speck.

Medicaid cuts

Unfortunately, the Hospital's administrators and staff have little time to celebrate, given that New York's new Governor, George Pataki, announced plans to reduce Medicaid funding by more than a billion dollars.

"I'm sympathetic with the Governor's need to balance the budget," says Dr. Speck. "I'm less sympathetic about his plan to balance the budget and provide tax relief to middle-class tax payers through cutbacks in Medicaid." It's not fair to the poor, he says, nor to the four or five hospitals in the state with a disproportionately high share of Medicaid patients. As the state's largest Medicaid provider, Presbyterian stands to lose the most, approximately $40 million a year in revenue.

Few complaints have been heard from other teaching hospitals in New York City, and for good reason. "Many are closely aligned with a municipal hospital, and thus are spared the considerable financial pressures of caring for the poor," says Dr. Speck. "Presbyterian Hospital, in contrast, is the sole institutional provider of health care to the nearly 400,000 residents of Northern Manhattan, most of whom are underinsured or uninsured. Two-thirds of our patients are insured by Medicaid or Medicare."

A great opportunity

Although Dr. Speck is worried about the impact of the impending Medicaid cuts, he is also optimistic: "It's interesting to take a terrible situation and try to turn it upside down and say it's a great opportunity. One of the best things that happened to us, one could argue, was to lose $50 million two years ago. That was a major wake-up call, forcing us to look at how to re-engineer ourselves to provide more cost-effective care."

With new deficits on the horizon, Dr. Speck and his administrative team are compelled to take another look at the Hospital's "engineering." "It would be irresponsible and shortsighted not to care for

Medicaid patients, so the approach is to figure out some way to provide care that is more cost-effective," Dr. Speck says. "You can't do that by cutting back on house staff or housekeeping or security. Instead, we must shift their care to a lower-cost facility, The Allen Pavilion. In addition, we have to provide more of our care in an ambulatory setting."

Making matters worse, Congress seems intent on cutting Medicare, particularly the portion which supports graduate medical education. This will hurt all New York City teaching hospitals, which train 15 percent of the nation's doctors.

Where the money is

"We're not just focusing on decreasing expenses," adds Dr. Speck. "We're implementing changes to increase revenues — changes in infrastructure that increase revenues on existing businesses, such as computerization of laboratories, modernization of billing systems, and the expansion of Columbia-Presbyterian/Eastside and other off-campus practice sites."

Tall order

"The more of this we can do, with or without Governor Pataki, the more competitive we will be, not just with the academic health centers but with the nonacademic health centers as well," Dr. Speck emphasizes.

It's a tall order, but the Hospital's recent history is encouraging. "Three years ago, state and federal officials were deeply worried that the Hospital was going to default on its mortgage," he says. "We were losing credibility in the industry. Other academic health centers in the country, particularly in New York City, were looking at us as if we were about to slip away."

They weren't far off the mark back then. But today, The Presbyterian Hospital is out of intensive care, well on its way to a complete recovery and ready for the challenges ahead.

THE PRESBYTERIAN HOSPITAL FINANCIAL AND STATISTICAL SUMMARY

	Year Ended December 31 (in thousands)	
	1994	1993
REVENUE		
Net Patient Service Revenue and Other Operating Revenue	$734,049	$723,202
EXPENSES		
Salaries, wages, and benefits	413,163	416,408
Supplies and expenses	166,828	163,597
Insurance	30,677	29,051
Depreciation and Amortization	51,697	53,574
Interest	40,830	45,313
Bad debts	33,337	37,766
Total Expenses	**736,532**	**745,709**
Excess of Expenses over Revenue before Cumulative Effect of Accounting Principal	(2,483)	(22,507)
Cumulative Effect of Change in Accounting Principal	0	(24,960)
Excess of Expenses over Revenue	($2,483)	($47,467)

INPATIENT STATISTICS	1994		1993	
	Adult	**Newborn**	**Adult**	**Newborn**
Average bed complement	1,205	75	1,350	75
Patient days	396,641	17,471	418,792	19.455
Discharges	47,809	5,565	47,168	5,685
Average length of stay (discharges)	8.29	3.14	8.61	3.50

OUTPATIENT STATISTICS	1994	1993
Number of visits (clinic & emergency):		
Medicaid	323,314	328,197
Medicare	58,722	50,968
Personnel & dependents	27,703	28,590
Other	136,540	134,221
Total	**546,279**	**541,976**
Total clinic visits	442,959	431,891
Total emergency visits	103,320	110,085
Doctors' private office visits	379,379	338,921
Total	**925,658**	**880,897**
Ambulatory surgery procedures	17,613	16,946

Note: Effective January 1, 1993, the Hospital was required to adopt Statement of Financial Accounting Standard 106: Accounting for Other Postretirement Benefits ("FAS 106"), which requires that the future cost of providing health care and other benefits to current and future retirees be accounted for using an accrual method. As a result of the adoption of FAS 106, a liability of $25.0 million representing the estimated value of benefits earned by retirees and current employees is presented on the balance sheet. A corresponding amount is presented as a separate item on the Statement of Revenue and Expense.

A copy of the last financial report filed with the Department of State may be obtained by writing to New York State, Department of State, Office of Charities Registration, Albany, N.Y. 12231 or the Finance Department, The Presbyterian Hospital, Columbia-Presbyterian Medical Center, New York, N. Y. 10032-3784.

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John C. Merriam, M.D.
Jeffrey G .Odel, M.D.
Louis D. Pizzarello, M.D.
Hermann D. Schubert, M.D.
R. David Sudarsky, M.D.

Assistant Attending Ophthalmologists
James D. Auran, M.D.
Rajendra K. Bansal, M.D.
Lisa G. Barbera, M.D.
Arthur M. Cotliar, M.D.
Stephen Doro, M.D.
George J. Florakis, M.D.
Pamela F. Gallin, M.D.
Michael Kazim, M.D.
Martin E. Lederman, M.D.
Rainer N. Mittl, M.D.
Hugh M. Moss, M.D.
Jaime Santamaria, II, M.D.
R. Theodore Smith, M.D.
Ram P. Tiwari, M.D.
Michael Weiss, M.D.

Associate Ophthalmologists
Daniel S. Casper, M.D.
Antonio M. Gonzales, M.D.
Donald H. Green, M.D.
Peter Michalos, M.D.
Lawrence G. Pape, M.D.

Assistant Ophthalmologists
Eli N. Avila, M.D.
Richard E. Braunstein, M.D.
Paul Frank, M.D.
B. David Gorman, M.D.
Jeffrey M. Josef, M.D.
John S. Kim, M.D.
Diane J.Kraus, M.D.
John S. Kung, M.D.
Peter E. Libre, M.D.
John A. Lucca, M.D.
Marc G. Odrich, M.D.

Steven A. Odrich, M.D.
Gloria R.Paoli, M.D.
Hilary J. Ronner, M.D.
Phyllis E. Weingarten, M.D.

ORTHOPEDIC SURGERY

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Nas Ser Eftekhar, M.D.
S. Ashby Grantham, M.D.
Jack H. Henry, M.D.
Marvin L. Shelton, M.D.

Associate Attending Orthopedic Surgeons
Louis U. Bigliani, M.D.
Evan L. Flatow, M.D.
Hugo A. Keim, M.D.
Christopher B. Michelsen, M.D.
Walter J. Pedowitz, M.D.
Melvin P. Rosenwasser, M.D.
David P. Roye, Jr., M.D.
Mark Weidenbaum, M.D.

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John W. Carmody, M.D.
Gail S. Chorney, M.D.
Frank A. Cordasco, M.D.
Robert N. Dunn, M.D.
Laura L. Forese, M.D.
Armen C. Haig, M.D.
Scott V. Haig, M.D.
William G. Hamilton, M.D.
Stuart J. Hershon, M.D.
Howard A. Kiernan, M.D.
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Ohannes Nercessian, M.D.
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Edward B. Self, Jr., M.D.
Martin L. Sorger, M.D.
Bruce L. Sprague, M.D.
Robert J. Strauch, M.D.
Francesca M. Thompson, M.D.
Ronald Tietjen, M.D.
Luther F. Warren, M.D.
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Phillip A. Bauman, M.D.
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Seth R. Miller, M.D.
Thomas A.Rago, M.D.
Wendell O. Scott, M.D.
Hervey S. Sicherman, M.D.
Alan Vanderwalde, M.D.
Marvin Winell, M.D.

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W. Michael Lai, Ph.D.
Van C. Mow, Ph.D

OTOLARYNGOLOGY

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Lawrence Savetsky, M.D.
Malcolm H. Schvey, M.D.
Howard W. Smith, M.D.

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Raymond B. Strauss, M.D.
Jack J. Wazen, M.D.

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Anthony P. Caruso, M.D.
Hyun T. Cho, M.D.
Lee D. Eisenberg, M.D.
Joseph Haddad, Jr., M.D.
Monte S. Keen, M.D.
Daniel B. Kuriloff, M.D.
Daniel J. Pender, M.D.
Hector P. Rodriguez, M.D.

Assistant Otolaryngologists
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Scott L. Kay, M.D.
Arlene H. Markowitz, M.D.
Diego Saporta, M.D.
Jayde M. Steckowych, M.D.

PATHOLOGY

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Jay H. Lefkowitch, M.D.
Barbara M. Osborne, M.D.
Karl H. Perzin, M.D.
Robert F. Reiss, M.D.
Ralph M. Richart, M.D.
Heidrun Rotterdam, M.D.

Associate Attending Pathologists
Andrew J. Dwork, M.D
Daniel J. Fink, M.D
Ellen Greenebaum, M.D
Arthur P. Hays, M.D
Debra S. Heller, M.D
Kathleen M. O'Toole, M.D
May Violet Parisien, M.D
Helen M. Richards, M.D
Hermann D. Schubert, M.D
Thomas C. Wright, Jr., M.D

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Lool Seged Abebe, M.D
Yuan Chang, M.D
Peter E. Fisher, M.D
Hanina Hibshoosh, M.D
Sameera Husain, M.D
John J. Krolewski, M.D
Eugene E. Marcantonio, M.D
Anne Y. Matsushima, M.D
Robert V. Sideli, M.D
Matthias J. Szabolcs, M.D
Benjamin Tycko, M.D
Carol L. Williams, M.D

Assistant Pathologist
Francine R. Dembitzer, M.D

Associate Professional Clinical Microbiologists
Phyllis Della-Latta, Ph.D.
Irene Weitzman, Ph.D.

PEDIATRICS

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Russell S. Asnes, M.D.
Frederick M. Bomback, M.D.
Roy E. Brown, M.D.
Louis Z. Cooper, M.D.
Nicholas Cunningham, M.D.
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Darryl DeVivo, M.D.
Anne A. Gershon, M.D.
Welton M. Gersony, M.D.
Jerry C. Jacobs, M.D.
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Sergio Piomelli, M.D.
Michael R. Rosen, M.D.
Tove S. Rosen, M.D.
Peter T. Rothstein, M.D.
Joseph A. Silverman, M.D.
Anneliese L. Sitarz, M.D.
William T. Speck, M.D.
Raymond L. Stark, M.D.
John T. Truman, M.D.
Doris L. Wethers, M.D.
Robert J. Winchester, M.D.

Associate Attending Pediatricians
Linda J. Addonizio, M.D.
Kwame Anyane-Yeboa, M.D.
Robert E. Appleby, M.D.
Robyn J. Barst, M.D.
Jennifer J. Bell, M.D.
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Roger S. Challop, M.D.
Janna C. Collins, M.D.
Richard J. Deckelbaum, M.D.
Candace J. Erickson, M.D.
Bernard R. Feldman, M.D.
Charles H. Feldman, M.D.
James H.Garvin, M.D.
Burton Grebin, M.D.
Ludovico Guarini, M.D.
Constance J. Hayes, M.D.
Allan J. Hordof, M.D.
Anne Hurlet-Jensen, M.D.
Matilde Irigoyen, M.D.
Sudha Kashyap, M.D.
Kenneth H. Katz, M.D.
Philip Kazlow, M.D.
Ehud Krongrad, M.D.
Philip S. LaRussa, M.D.
George M. Lazarus, M.D.
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Gilbert W. Mellin, M.D.
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Martin A. Nash, M.D.
John F. Nicholson, M.D.
Michael Novogroder, M.D.
Leila M. Pang, M.D.
Jane Pitt, M.D.
Alice S. Prince, M.D.
Joan A. Regan, M.D.
Karl F. Schulze, M.D.
Jack G. Shiller, M.D.
Thomas J. Starc, M.D.
Ronald F. Swanger, M.D.

Assistant Attending Pediatricians
Dennis Allendorf, M.D.
Paula A. Annunziato, M.D.
Robert Antar, M.D.

Gaya S. Aranoff, M.D.
Arthur B. Atlas, M.D.
Michael K. Bartalos, M.D.
James T. Belisle, M.D.
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T. Donald Eisenstein, M.D.
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Gustave Gavis, M.D.
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Stephen Glaser, M.D.
Hazel Goodwin, M.D.
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Daphne T. Hsu, M.D.
Emily Jackness, M.D.
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Leonard Kasen, M.D.
Stuart Kaufman, M.D.
Diane Kerstein, M.D.
Maryanne R. Kichuk, M.D.
Anastassios C. Koumbourlis, M.D.
Murray D. Kuhr, M.D.
Betty C. Kuo, M.D.
Elaine C. Lee, M.D.
William Lee, M.D.
Donald A. Leichter, M.D.
Suzanne C. Li, M.D.
Carolkay Lissenden, M.D.
Neil Lombardi, M.D.
Judith L. Luskin, M.D.
Zvi S. Marans, M.D.
Mary J. Marron-Corwin, M.D.
Terry M. Marx, M.D.
Mary M. McCord, M.D.
Steven Z. Miller, M.D.
Mona Milstein, M.D.
Neil L. Minikes, M.D.
Carlos H. Montoya-Iraheta, M.D.
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Stephen W. Nicholas, M.D.
Charles A. Nichter, M.D.
Luis C. Nina-Ortega, M.D.
Jeffrey S. Nye, M.D.
Celia Ores, M.D.
James F. Pelegano, M.D.
Betsy Pfeffer, M.D.
Lynne M. Quittell, M.D.
David J. Resnick, M.D.
Alan Ross, M.D.
Boris Rubinstein, M.D.
Lisa Saiman, M.D.
Nan R. Salamon, M.D.
Ulana M. Sanocka, M.D.
William S. Schechter, M.D.
Malcolm S. Schwartz, M.D.
Margaret A. Schwarz, M.D.
Robert L. Seigle, M.D.
Kung-Tso Sheng, M.D.
David Siegler, M.D.
Eric T. Skolnick, M.D.
Arthur J. Smerling, M.D.
David E. Solowiejczyk, M.D.
Karen Soren, M.D.
Susan Spear, M.D.
Evelyn Stanton, M.D.
Lena S. Sun, M.D.
Donna M. Timchak, M.D.
Benjamin H. Tsang, M.D.
Max Van Gilder, M.D.
Elizabeth A. Wedemeyer, M.D.
Carol L. Williams, M.D.
David H. Wisotsky, M.D.
Howard A. Zucker, M.D.

Associate Pediatricians

Heidi E. Beutler, M.D.
Margaret Burroughs, M.D.
Lilian W. Chiu, M.D.
Maryann J. Colenda, M.D.
John Louis Costa, M.D.
Ann L. Engelland, M.D.
Alan I. Kanter, M.D.
Mariellen M. Lane, M.D.
Peter F. Migel, M.D.
Carlyn A. Oppedisano, M.D.
I. Jill Ratner, M.D.
Martin M. Rodriguez-Ema, M.D.
Robert M. Schwartz, M.D.
Barbara E. Strassberg, M.D.
Lynn M. Sugarman, M.D.
Nikki L. Timko, M.D.
Mary G. Versfelt, M.D.
Margaret C. Wang, M.D.

Assistant Pediatricians

Francis A. Akita, M.D.
Anne H. Armstrong-Coben, M.D.
Scott D. Bookner, M.D.
Dennis A. Brown, M.D.
Maury Buchalter, M.D.
Stuart J. Danoff, M.D.
Gloria T. Edis, M.D.
Patricia Visbal Edmondson, M.D.
Bernard Etra, M.D.
Eric D. Fethke, M.D.
Howard M. Friedman, M.D.
Ruth L. Gold, M.D.
Charles R. Gordon, M.D.
Stephen L. Gordon, M.D.
Bruce M. Henry, M.D.
Jesus C. Jaile, M.D.
Jose R. Jerez, M.D.
Rosemary E. Klenk, M.D.
Bernardo Kraselnik, M.D.
Dorothy A. Levine, M.D.
Jennifer L. Longobardi, M.D.
Robert A. Manduley, M.D.
Judith Rose Marcus, M.D.
Dodi D. Meyer, M.D.
Pleno Moise, M.D.
Valerie J. Niketakis-Wujc, M.D.
Carlos R. Perel, M.D.
Robert Perello, M.D.
Laura E. Robbins-Milne, M.D.
Fernando O. Rodriguez, M.D.
Adrienne R. Rogers, M.D.
Rosalinda Rubinstein, M.D.
Douglas B. Savino, M.D.
Gail Schewitz, M.D.
McColvin Scott, M.D.
Paula M. Silverman, M.D.
F.Meridith Sonnett, M.D.
John R. Stafford, M.D.
Juan Tapia-Mendoza, M.D.
Shiu-Lin Tsai, M.D.
David Wax, M.D.
Susan S. Yoo, M.D.

Clinical Assistant Pediatricians

Michele P. Abercrombie, M.D.
Hany E. Aly, M.D.
Howard D. Apfel, M.D.
Roberto Ayres, M.D.
Grace Becz, M.D.
Alan M. De Klerk, M.D.
Michele Anne Dyan, M.D.
Gary S. Edelstein, M.D.
Marianne Garland, M.D.
Michelle L. Goldberg, M.D.
Lisa F. Imundo, M.D.
Dorit Kaluski, M.D.
Natalie Neu, M.D.
Beverley J. Sheares, M.D.
Helen M. Towers, M.D.

PHARMACOLOGY

Full Professional Pharmacologist

Brian F. Hoffman, M.D.

PSYCHIATRY

Director of Service

Herbert Pardes, M.D.

Attending Psychiatrists

Miron Baron, M.D.
Anne E. Bernstein, M.D.
Hector Bird, M.D.
James L. Curtis, M.D.
Richard G. Druss , M.D.
Harlow D. Dunton, M.D.
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Archie R. Foley, M.D.
Abby Fyer, M.D.
Richard A. Gardner, M.D.
Alexander H. Glassman, M.D.
Robert A. Glick, M.D.
Murray Glusman, M.D.
Jack M. Gorman, M.D.
Arthur Green, M.D.
Joseph Jaffe, M.D.
Frederic I. Kass, M.D.
Clarice J. Kestenbaum, M.D.
Herbert D. Kleber, M.D.
Donald F. Klein, M.D.
Donald S. Kornfeld, M.D.
Alexander N. Levay, M.D.
Michael R. Liebowitz, M.D.
Roger MacKinnon, M.D.
J. John Mann, M.D.
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Frederic M. Quitkin, M.D.
John D. Rainer, M.D.
Ronald O. Rieder, M.D.
James H. Ryan, M.D.
David Shaffer, M.D.
Henry I. Spitz, M.D.
Robert L. Spitzer, M.D.
B. Timothy Walsh, M.D.
Ralph N. Wharton, M.D.

Associate Attending Psychiatrists

Stan D. Arkow, M.D.
Morton J. Aronson, M.D.
Raymond Bernick, M.D.
Stanley Bone, M.D.
Edward N. Brennan, M.D.
Ian A. Canino, M.D.
William J. Chambers, M.D.
Francine Cournos, M.D.
Jennifer Downey, M.D.
Paula Eagle, M.D.
David Forrest, M.D.
Mindy T. Fullilove, M.D.
Laurence L. Greenhill, M.D.
Ewald Horwath, M.D.

Steven E. Hyler, M.D.
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Lila J. Kalinich, M.D.
Charles A. Kaufmann, M.D.
Neil B. Kavey, M.D.
Thomas Kranjac, M.D.
Burton A. Lerner, M.D.
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Franklin R. Schneier, M.D.
Eleanor S. Schuker, M.D.
Jonathan M . Silver, M.D.
Andrew E. Skodol, II, M.D.
Ellen Stevenson, M.D.
Jonathan W. Stewart, M.D.
Ezra Susser, M.D.
Josef H. Weissberg, M.D.
Agnes H. Whitaker, M.D.
Daniel T. Williams, M.D.

Assistant Attending Psychiatrists

Evelyn Attia, M.D.
Athanasia Balkoura, M.D.
John J. Barsa, M.D.
Robinette N. Bell, M.D.
Stephen L. Bennett, M.D.
Adriane R. Birt, M.D.
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Deborah S. Cabaniss, M.D.
Paul F. Califano, M.D.
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Harvey R. Chertoff, M.D.
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Susan R. Clarvit, M.D.
Daniel E. Cohen, M.D.
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Lee S. Cohen, M.D.
Janis L. Cutler, M.D.
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Lourdes M. Dominguez, M.D.
Stephen J. Donovan, M.D.
Carolyn J. Douglas, M.D.
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Katherine Falk, M.D.
Brian A. Fallon, M.D.
Tovah Feldhammer, M.D.
Alan D. Felix, M.D.
Sharon Fingeroth, M.D.
Michael B. First, M.D.
James W. Flax, M.D.
Bruce M. Forester, M.D.
Eugene A. Friedberg, M.D.
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Deena R. Harris, M.D.
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Joel S. Hoffman, M.D.
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Andrew Hornstein, M.D.
Charita C. Hoyle-Parr, M.D.
Gerald Hurowitz, M.D.
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Wynn K. Jackson, M.D.
Jonathan A. Javitch, M.D.
Christopher M. Johannet, M.D.
Sherry P. Katz-Bearnot, M.D.
Bonnie S. Kaufman, M.D.
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Jules Kernan, M.D.
Robert Kertzner, M.D.
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Richard B. Krueger, M.D.
Lucy B. LaFarge, M.D.
Peter Laderman, M.D.
Jorge Leal, M.D.
Eve Leeman, M.D.
Leon Lefer, M.D.
Naomi Leiter, M.D.
Jon A. Levenson, M.D.
Frances R. Levin, M.D.
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Louis S. Linfield, M.D.
Laurence S. Lorefice, M.D.
Andrew C. Lotterman, M.D.
Dolores Malaspina, M.D.
Henry L. McCurtis, M.D.
Robert D. McMullen, M.D.
Frederick S. Mendelsohn, M.D.
Robert J. Mitchell, M.D.
Joanne Moore, M.D.
Serge Mosovich, M.D.
Joseph C. Napoli, M.D.
Roger S. Nathaniel, M.D.
Lourdes Neugart, M.D.
Mitchell S. Nobler, M.D.
Edward V. Nunes, Jr., M.D.
Maria A. Oquendo, M.D.
Marian A. Ormont, M.D.
Louis Padovano, M.D.
Patricio Paez, M.D.
Paula G. Panzer, M.D.
Bruce James Parsons, M.D.
Cynthia Perry, M.D.
Patricia M. Powell, M.D.
Joan Prudic, M.D.
Jeffrey S. Rosecan, M.D.
Barbara R. Rosenfeld, M.D.
Jane L. Rosenthal, M.D.
Lyle E. Rosnick, M.D.
Ellen Brown Tree, M.D.
Boris Rubinstein, M.D.
John A. Sahs, M.D.
J. Arturo Sanchez-Lacay, M.D.
Diana P. Sandberg, M.D.
Morton B. Sarlin, M.D.
Pellegrino J. Sarti, M.D.
Murray D. Schane, M.D.
Helen L. Schleimer, M.D.
Holly A. Schneier, M.D.
Karl J. Schroeder, M.D.
Mary Sciutto, M.D.
Anne P. Sellew, M.D.
Peter A. Shapiro, M.D.
Tara L. Sherman, M.D.
Charles Siegal, M.D.
Meriamne B. Singer, M.D.
Pamela B. Sklar, M.D.
Jonathan A. Slater, M.D.
Mark F. Sorensen, M.D.
Frieda H. Spady, M.D.
Paul J. Spector, M.D.
Margaret G. Spinelli, M.D.
Gloria Stern, M.D.
Laurie A. Stevens, M.D.
David H. Strauss, M.D.
Nancy W. Tancer, M.D.
Stuart W. Taylor, M.D.
Nina L. Toshav, M.D.
Eleanor Townsend, M.D.
David Weng, M.D.
Ilona Wiener, M.D.
Ronald M. Winchel, M.D.
Lillian R. Wong-Ryan, M.D.
Richard B. Zimmer, M.D.

Associate Psychiatrists

Gurston D. Goldin, M.D.
Phyllis B. Robbins, M.D.

Assistant Psychiatrists

Joanne H. Ahola, M.D.
Carlos E. Almeida, M.D.
Andre Azemar, M.D.
Wolfgang Berten, M.D.
Mary E. Bongiovi, M.D.
Catharine S. Buttinger, M.D.
Siobhan M. Coomaraswamy, M.D.
Eduardo A. Costantino, M.D.
Ione De Jesus, M.D.
Deborah B. Dickstein, M.D.
Sarah J. Fox, M.D.
Ron G. Goldman, M.D.
Nannette Goldstein, M.D.
Lauren K. Gorman, M.D.
Ruth L. Graver, M.D.
Margaret I. Hamilton, M.D.
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